

ABSTRACT

A catheter guiding assembly includes a catheter and a catheter advancing and retracting apparatus. The catheter includes an elongate shaft having an exterior surface, a proximal end, and a distal end; a first lumen extending through the shaft and sized to receive a guidewire; and a guideway enabling transverse access from the shaft exterior surface to the first lumen. The catheter advancing and retracting apparatus comprises an elongate housing having a proximal end and a distal end; an opening formed through the housing and adapted to receive the catheter; a wheel port formed in the housing and in communication with the opening; and a wheel secured in the wheel port and sized to radially extend into the catheter guideway.